MANAGEMENT UNIT 18 - OQUIRRH-STANSBURY

Boundary Description

Salt Lake, Utah, and Tooele counties - Boundary begins at the junction of I-15 and I-80 in Salt Lake City; south on I-15 to SR-73; west on SR-73 to SR-36; south on SR-36 to the Pony Express road located just south of Faust; west on this road to the Skull Valley-Dugway-Timpie road; north on this road to I-80 at Rowley Junction; east on I-80 to I-15 and beginning point.

Unit Description

This management unit includes the Stansbury, Oquirrh, and Onaqui Mountains and is divided into two subunits. Big game activity within the unit centers around the Oquirrh Mountains and the Stansbury Mountains with their southern foothills. These two mountain ranges are both fairly isolated from surrounding ranges by valleys and are the only lands suitable for big game habitat.

The winter range for the Oquirrh Mountains is limited to land below 7,000 feet (2,134 m) and makes up approximately 48% of the land classified as suitable for big game. The remainder is located at an elevation range of 7,000 to 7,500 feet (2,134 to 2,289 m) and is classified as summer range. During severe winters, the available winter habitat is reduced to almost half this area; a particularly major management problem for the Oquirrh Mountains. Another major concern is that 63% of the summer and 45% of winter range are under private ownership. The area has a history of heavy grazing (almost year round) by cattle, sheep, wild horses, and goats. Although current use is less intense than in the past, the winter range condition has continued to decline.

Air pollution from smelters have created management difficulties for the area surrounding the northern Oquirrh Mountains. Historically, pollution eliminated almost all vegetation within drainages adjacent to the smelter (personal communication with Ann Neville, Kennecott biologist resource specialist, 2007). Accumulations of mine tailings in Bingham and Mercur Canyons have covered significant acreages on both summer and winter ranges. Access to studies on private land also pose a difficulty in this unit. Kennecott Copper Corporation, the largest single land owner, allows very limited hunting access for elk and deer hunting.

The Stansbury Mountains winter range is located below 6,800 feet (2,073 m) and makes up approximately 55% of the big game range. Summer range is limited to about 6,800 to 7,000 feet (2,073 to 2,134 m). The proportion of private lands on this big game habitat are 6% of the summer and 14% of the winter ranges. Although the overall winter range condition is generally more satisfactory than that of the Oquirrh Mountains, there is a high abundance invasive weeds restricting the reproduction and establishment of browse species.

Big Game Management Objectives

The estimated winter mule deer herd populations for the unit were 8,850 deer in 2002, 9,100 in 2003, 9,400 in 2004, and 10,250 in 2005 with an average of 12.3 bucks per 100 does from 2003 to 2005. The post-season fawn:doe ratio has averaged 61:100 since 1999. The current management objective for deer is a target herd winter population of 10,600 with a composition of 15 to 20 bucks per 100 does (Hersey and McLaughlin 2005).

The estimated winter elk herd populations in the entire unit from 2002 to 2004 were 700 elk and 740 in 2005. The current management objective for elk is a target herd winter population of 800 (Hersey and McLaughlin 2006).

MANAGEMENT SUBUNIT 18A - OQUIRRH-STANSBURY, NORTH

Subunit Boundary Description

Tooele County - Boundary begins at Lake Point Junction on I-80; south on the Tooele/Salt Lake County boundary to Middle Canyon Road; west on Middle Canyon Road to SR-36; south on SR-36 to the Pony Express road located just south of Faust; west on this road to the Skull Valley-Dugway-Timpie road; north on this road to I-80 at Rowley Junction; east on I-80 to Lake Point Junction and beginning point.

Range Trend Studies

Nine studies were originally established in the subunit in 1983. Since 1983, four studies were added for a total of 13, but four were suspended in 2002. In 2007, nine studies were sampled.

SUMMARY

WILDLIFE MANAGEMENT SUBUNIT 18A - OQUIRRH-STANSBURY NORTH

Community Types

Nine trend studies were resampled in 2007. Three were dominated by Wyoming big sagebrush and Stansbury cliffrose, two by Wyoming big sagebrush, two by mountain big sagebrush, one by bitterbrush, and one by annual grasses and forbs.

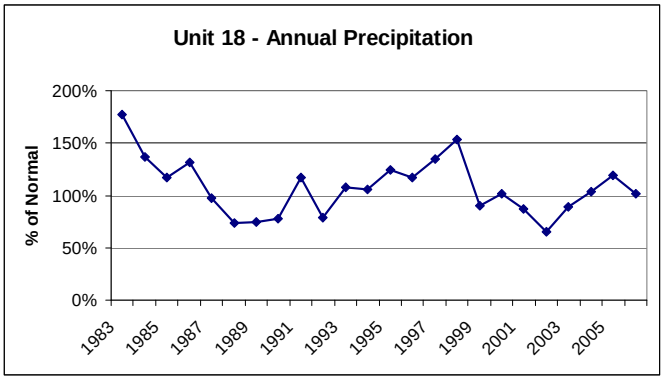

Figure 1. Annual precipitation for the entire unit 18. Precipitation data was collected at the Tooele, Johnson Pass, and Fairfield weather stations (Utah Climate Summaries 2007).

Precipitation

Vegetation trends are dependent upon annual and seasonal precipitation patterns. Precipitation data from this herd unit were compiled from the Tooele, Johnson Pass, and Fairfield weather stations (Figures 1 and 2). The unit annual precipitation average was below 75% of normal (drought conditions) in 1988, 1989, and 2002 and below normal in 1990, 1992, 1999, 2001, and 2003 (Figure 1). Spring precipitation was below 75% of normal in 1989, 1990, 1992, 2000, and 2007 and below normal in 1997, 2001, 2002, 2003, and 2004 (Figure 2). Fall precipitation was near or below 50% of normal in 1995, 1999, 2003, and 2005 (Figure 2). Spring precipitation is essential for the recruitment of browse seedlings and the establishment of native perennial grasses and forbs. Fall precipitation, however, benefits winter annual species, such as cheatgrass (Monsen 1994).

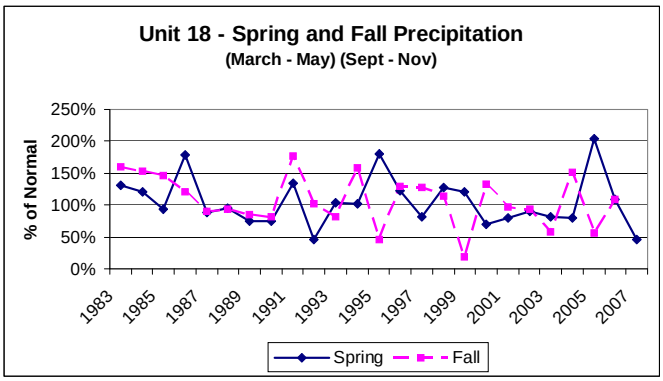

Figure 2. Spring and fall precipitation for unit 18. Precipitation data was collected at the Tooele, Johnson Pass, and Fairfield weather stations (Utah Climate Summaries 2007).

Browse

The average browse trend slightly decreased from 1983 to 1989, increased between 1989 and 2002, and slightly decreased from 2002 to 2007 (Figure 3). Mountain big sagebrush density declined from 2002 to 2007, but this decrease comes mostly from Below Chokecherry Spring (18A-25), where sagebrush density declined 42% (Figure 4). Figure 5 indicates a large decrease in mountain big sagebrush decadence between 1997 and 2002. However, this change is mainly a reflection of the results of the chaining treatment at East Hickman Canyon (18A-32), where juniper trees were removed and sagebrush decadence decreased from 100% of the population in 1997 to 25% in 2002. Average sagebrush cover has been stable since 1997 (Figure 6). Wyoming big sagebrush has slightly increased in both density and decadence since 1997 (Figures 4 and 5).

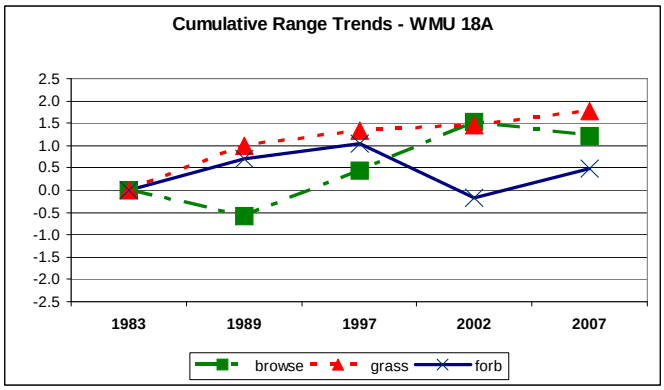

Figure 3. Cumulative range trends for subunit 18A, Oquirrh-Stansbury North.

Grass

The grass trend has increased steadily since 1983 (Figure 3). Perennial grass cover increased from 11% in 1997 to 14% in 2007, while cheatgrass cover only slightly increased from 6% to 7% (Figure 7). Bulbous bluegrass cover increased from 1% in 1997 to 3% in 2002, then decreased to 2% by 2007. This species was only sampled on three of the sites in this subunit, and the overall trend is mostly reflective of Carr Fork (18A-31), which had the highest bulbous bluegrass cover. The nested frequency of perennial grasses remained stable between 1997 and 2002, then increased in 2007. The nested frequency of cheatgrass slightly decreased from 1997 to 2002, and remained relatively stable between 2002 and 2007. The nested frequency of bulbous bluegrass increased between 1997 and 2002, and remained stable in 2007 (Figure 8).

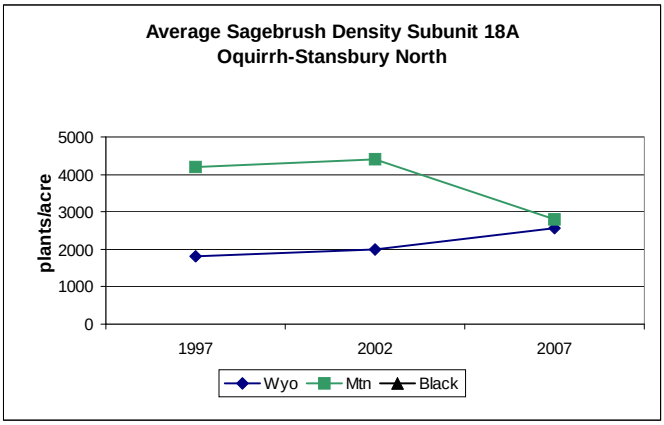

Figure 4. Average mountain big sagebrush and Wyoming big sagebrush density for subunit 18A.

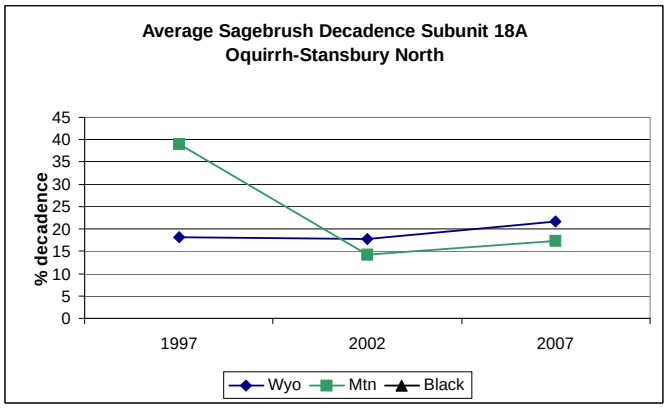

Figure 5. Average mountain big sagebrush and Wyoming big sagebrush decadence for subunit 18A.

Forbs

The forb trend steadily increased between 1983 and 1997, decreased in 2002, and increased in 2007 (Figure 3). The decline of forbs in 2002 may be due to drought conditions (Figure 1). The forb trend was down or slightly down on seven sites in 2002. Percent cover of perennial forbs was stable from 1997 to 2002, then increased from 3% in 2002 to 5% in 2007 (Figure 7). Nested frequency of perennial forbs decreased in 2002, and increased in 2007 (Figure 8). Bur buttercup, which is undesirable, and holosteum and pale alyssum, which provide little forage, were the dominant forb species on eight sites. Noxious weeds were only sampled at Carr Fork (18A-31).

Desirable Components Index

The subunit Desirable Components Index (DCI) average for low potential studies was fair-good in 1997, and decreased to fair in 2002 and 2007 (Figure 9). The DCI average for mid-level potential studies was fair in 1997, but dropped to a poor-fair rating in 2002, and remained stable in 2007 (Figure 9). The decrease in 2002 was due to a downward trend in grasses and forbs, mainly because of drought conditions. There was also a suppression of the understory at South of Broons Canyon (18A-27) by a dense bitterbrush canopy.

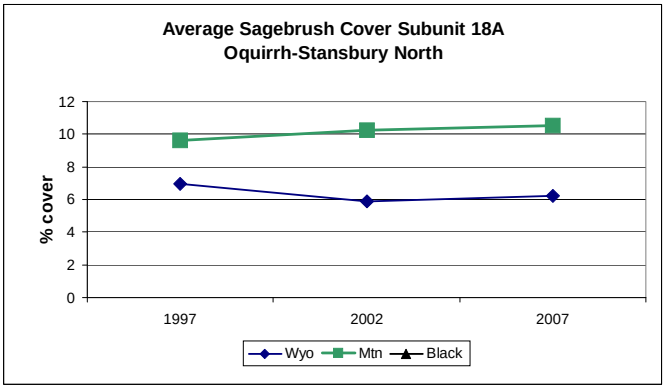

Figure 6. Average mountain big sagebrush and Wyoming big sagebrush cover for subunit 18A.

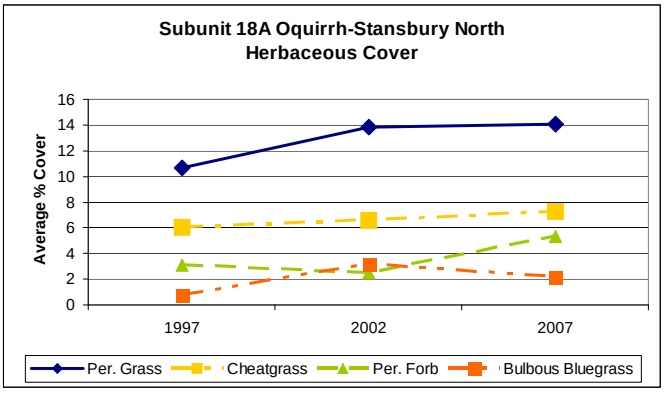

Figure 7. Average herbaceous cover for subunit 18A.

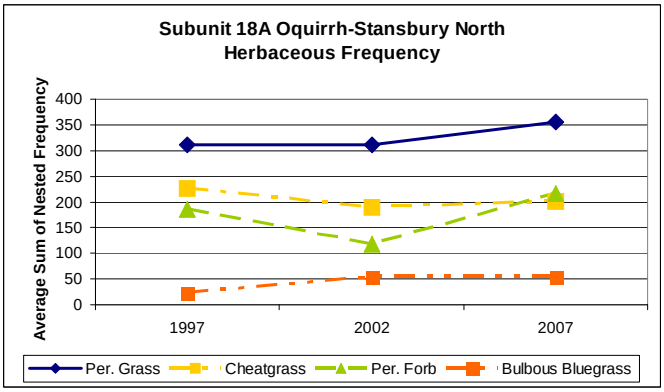

Figure 8. Average herbaceous nested frequency for subunit 18A.

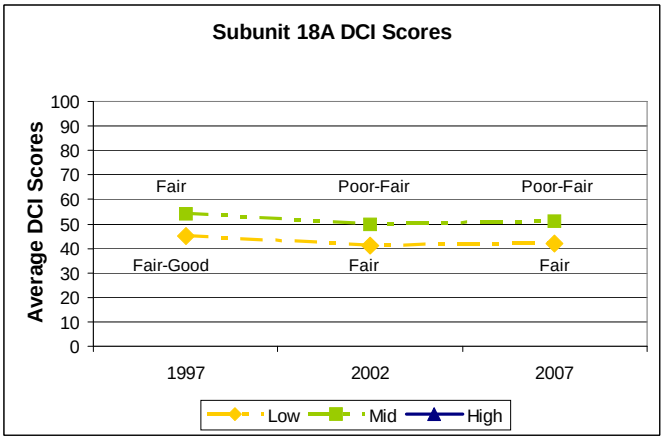

Figure 9. Subunit 18A average Desirable Components Index (DCI) scores by year. The DCI scores are divided into three categories based on ecological potentials, which include low, mid-level, and high.